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AUTHOR Lanigan, Richard L.
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ABSTRACT

This paper formulates a semiotic metatheory (theory of change) of human communication, in six analytical steps: First, semiology indicates that the coding function in communication relies on the nature of the signifier and the signified. Second, the nature of coding (as distinct from its function) is best described by social systems theory. Third, human communication is best accounted for by communication theory, not by information theory. Fourth, any metatheory of human communication based on the foregoing hypotheses can have only two functional models in the social world. Fifth, these two models, called the ecosystem model and the phenomenological model, constitute the logical universe of a rigorous science of communication. Sixth, these models presume a semiotic base in which description and information are code conditions, definition and communication are context conditions, and interpretation and legitimation are message conditions. (Author/RL)

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A SEMIOTIC METATHEORY OF HUMAN COMMUNICATION

by

Richard L. Lanigan

Associate Professor, Graduate Faculty
Department of Speech Communication
Southern Illinois University
Carbondale, IL 62901

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Dr. Richard L. Lanigan
Dept. of Speech Communication
Southern Illinois University
Carbondale, IL 62901

A SEMIOTIC METATHEORY OF HUMAN COMMUNICATION

ABSTRACT

Many of the theory construction ambiguities associated with the concepts of signifier and signified can be clarified by comparing certain theoretical similarities among Semiology, Social Systems Theory, Communication Theory, and Existential Phenomenology. Semiology provides a problem context by suggesting a method for distinguishing signifier and signified on the basis of continuity and rupture in coding. And, Social Systems Theory further clarifies the problematic with the alternate open/closed systems models as an insight to code ontogenesis and phylogenesis. Communication Theory sets the criteria for analysis by suggesting the process link between coding and performance. Hence, relationships can be established between metaphor/morphogenesis, metonymy/homeorhesis, analogue/homeogenesis, and, digit/homeostasis.

A base is therefore established for a metatheory in which two functional models are possible. First, a rectilinear/curvilinear model displaying equifinality and morphogenesis. And second, a multilinear model suggesting multifinality and morphostasis in human communication. Utilizing these models to establish boundaries (Wilden), communication can be studied as a rigorous science. Communication becomes the focal point of an Ecosystem Model where digital or analogical relationships are established as and between intrapersonal and interpersonal communication. One can thereby make praxis coding distinctions among speech, speaking, writing, reading, etc.

On the basis of code distinctions an analysis can be extended by an Existential Phenomenological Model of communication. Again utilizing the variables of intra- /interpersonal and digital/analogical communication, certain system-code (Eco) distinctions can be generated among society, history, nature, culture, organism, and, mechanism. The principal contribution of the phenomenological model is the ability to resolve certain theoretical ambiguities of the signifier/signified relation as experienced in the functional world of communication praxis. For example, one can generate the ability to reverse digital and analogical conditions/relations, or, generate a description of the person/personality in terms of interpersonality/intersubjectivity. Finally, one can then suggest certain metatheory areas for research, such as the interface between method and technology where: (1) Description can be conceived as information (data generation by cognition), (2) Definition can be understood as communication (capta generation by affection), and (3) Interpretation can be viewed as legitimation (acta generation by performance).

This monograph seeks to build on the foundation laid by Anthony Wilden's System and Structure (Harper & Row, 1972), Umberto Eco's A Theory of Semiotics (Indiana University Press, 1976), and my Speech Act Phenomenology (Martinus Nijhoff, 1977).

A SEMIOTIC METATHEORY OF HUMAN COMMUNICATION

Explanations of human communication are by definition projects in metatheory construction. Just as natural languages may be used to describe and explain themselves, the construction rules for communication systems may be used to articulate new paradigms consisting of or constituting a higher logical type of communication.[1] In the discussion that follows, I want to suggest the way in which certain theory construction rules (examplar concepts) belonging respectively to Semiology, Social Systems Theory, Communication Theory, and Existential Phenomenology can be combined into a metatheory construction of communication that is by nature and function human. Such a metatheory, I believe, is both a necessary and sufficient condition for understanding and appreciating the concepts of signifier and signified as constituents of the concept sign. It is the legacy of Saussure which puts these concepts at the center of all communicative behavior that is explained by the process of human expression and perception.[2]

My analysis will progressively deal with six topics or general hypotheses. First, semiology indicates that the coding function in communication relies on the nature of the signifier and the signified. Second, the nature of coding (as distinct from its function) is best described by social systems theory. Third, human communication is best accounted for by Communication Theory, not Information Theory. Fourth, any metatheory of human communication based on the foregoing hypotheses can have only two functional models in the social world. Fifth, these two models which I call the Ecosystem Model and the Phenomenological Model constitute the logical universe of a rigorous science of communication. And sixth, I state a prolegomena for communication theory and praxis that is human in nature and function.

The usual convention for defining the "signifier" as a "sound-image"

and the "signified" as a "concept" forgets Saussure's intention that sound-image and concept were precisely the problematic to be resolved by the new constructs: "signifier" and "signified" that "have the advantage of indicating the opposition that separates them from each other and from the whole [sign] of which they are parts."[3] Together with the logical theory of coherence, Saussure further specifies two concomitant principles: (1) the arbitrary nature of the sign; and (2), the linear nature of the signifier. Saussure explains that by "arbitrary" he means the signifier has no natural connection with the signified. And, he explains "linear" by noting that the signifier "unfolds solely in time." And, he further limits the signifier by saying that it "represents a span and the span is measurable in a single dimension; it is a line."[4]

What we have in Saussure's formulations are the often over looked rules for coding signs as binary analogues. Signs do not existas the behavioristic reductions of sound-image and concept (which in most cases requires an equivocation between "image" and "concept). Signs do exist as formal boundaries, i.e. logical forms which are distinct as class entities (abstractions, qualities) and as their combination as a whole (relations, functions).[5] In short, Saussure relies on the construction rule that a class cannot contain itself. This condition being the case, signifier and signified have the status of class identity (they are reflexive), the status of a reversible nature (they are symmetrical) as either continuity or discontinuity [rupture] as boundary conditions of each other, and the status of being transitive. These conditions of the signifier and the signified suggest a synergistic nature for the sign(s), namely that sign function (a signified form) is logically a necessary and sufficient condition for the nature (a signifier form) of any given sign-system.[6]

We tend to overlook the sign's synergistic condition by assuming that "time" for Saussure is a chronological concept, or worse, that linear causality is a "time" functional causality. In fact, Saussure's definition for signifier, signified, and sign(s) suggests that "time" be perceived as ontological qualities of duality [reflexivity], position [symmetry], and projection [transition].[7] In this sense the logical condition of the sign(s) and its constitutent parts are achronic, i.e. the nature and function of sign(s) are indeterminate as "pure possibilities."[8] In other words, the forms signifier and/or signified constitute both duality and position by projection against each other (or with each other) to become the sign(s), the logical whole. At this point, it is clear that a construction rule to determine direction of function is needed since the Saussurian hypostatization of "time" does not suggest one.

I would like to argue that the concept of system as articulated in the social systems approach of General Systems Theory provides a workable answer, i.e. a construction rule. The correlated notions of an "open" and "closed" system possibilitysuggest that the sign/signifier/signified relation can be expressed in two functional modalities. First, the relation can be viewed as an open system where the relationship functions to specify possibilities of signification that are systemic and ontogenetic in nature. Second, a closed system can be expressed where the relationship is systematic and phylogenetic in nature. In general, Saussure's discussion of parole may be taken as an illustration of the open system, and respectively, his explanation of langue may be viewed as the closed system. In both cases the "system" represents a code condition (langage) for performance and competence.

The possibilities or boundaries for system performance (and the system infrastructure of "competence") are best articulated with a selected comparison

of Communication Theory and Information Theory. In the present context, I will be using Communication Theory to illustrate the open system and Information Theory to exemplify the closed system. The system that is common to both theories is the entailment construction rule that Communication Theory is inclusive of Information Theory, but not conversely. The logical grounds for this rule are apparent in a brief contrast between the two theories. For simplicity, I conceive of each theory as being a sequential complex of three construction rules: (1) Message, (2) Context, and (3) Code. In the case of Information Theory (a digital logic) which is logically prior to Communication Theory, "message" is defined as "sign presence," "context" is defined as "sign absence," and "code" is defined as "either sign presence or sign absence." The construction rule thereby articulated is that in a closed system only context of choice is established. That is, the possibilities of choice are determined, but no one particular choice is specified as appropriate, correct, etc. The result is the establishment of a system of cultural conventions or "regulative rules" that suggest appropriate choices which are, strictly speaking, arbitrary an linear in Saussure's sense of those terms.[9] In short, Information Theory allows us to account for langue as a closed system. That closed sytem in its general application we normally regard as "culture." We should note as Isreal points out, in actual performance human beings do engage in behavior that is explained by such a closed system although Information Theory is perfectly suited to the description and prediction of open systems whether human, animal, and/or machine signal (signifier/signified form is invariant) systems.[10]

Returning now to Communication Theory (an analogue logic), we have a sequential complex that is the opposite of Information Theory: (1) Code,

(2) Context, and (3) Message. In this case, code is "both sign presence and sign absence." The construction rule generated is that choice in context is constituted, thus leaving specific context to be regulated by social convention. The result is the creation of a system of social conventions or regulative rules that are also arbitrary and linear. At this point, we have a metatheory hypothesis that can explain communicative behavior that is socially variable within culture (langue) and culturally variable in society (parole) but which displays code consistency (langage) in either modality. My explanation so far has considered sign presence and absence as features of both Communication Theory and Information Theory. Let me suggest as a postulate that the same analysis can be applied selectively to signifiers and signifieds, thereby generating a theory of logical extension/intension accounting for communication as linguistic connotation/denotation[11] or as non-linguistic systems.[12]

It may be helpful at this point to illustrate the Information Theory/Communication Theory connection in a diagram indicating the arbitrary, linear sense in whichcommunicative competence allows for communicative performance as a metatheory phenomenon.[13] In Fig. 1. the star [*] indicates the locus of a person's conscious behavior which in a cultural, performance sense will be either egocentric or sociocentric, or if you will, the consistency of "context" located in a person or in a group is the movement from code to message to code ad infinitum as it occurs in human interaction. In linguistic terms, we may think of langage as the cultural connection between persons (Lebenswelt) and their cultures as institutions (Weltanschauung). I have illustrated this process with a solid line [———] in Fig. 1. In other words, a cultural system of messages exists when a person is born into the culture. Those messages contextualize individual performance (parole) and the repetition

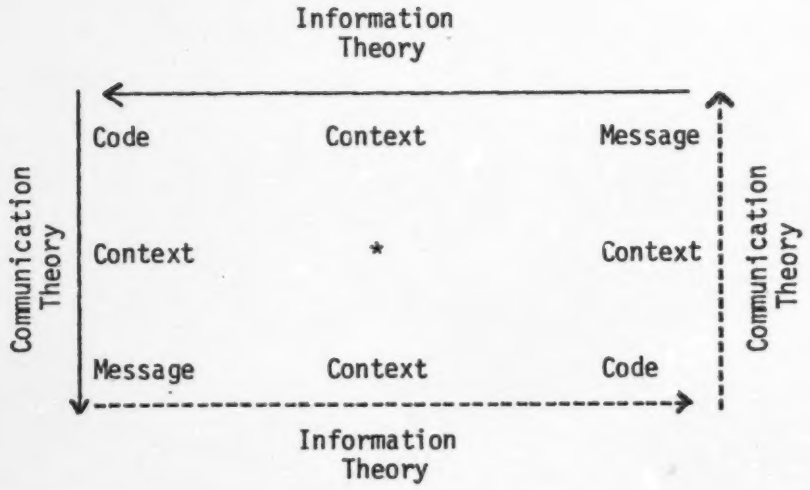

Figure 1. Communication Praxis

Legend: * = Synchrony [person's conscious behavior] which is either Egocentric or Sociocentric.

----- = Gemeinschaft/Gesellschaft Function

____ = Lebenswelt/Weltanschauung Function

Note: 1. Communication Theory = Synchronic [consciousness] and Polychronic [behavior]

2. Information Theory = Diachronic [consciousness] and Monochronic [behavior]

of performance contextualizes new messages appropriate to the system. In more technical terms, Information Theory represents the Weltanschauung as a closed system that is diachronic ("cultural" consciousness; e.g. myth) and monochronic ("cultural" behavior; e.g. social convention). Yet, the existence of the person as a cultural agent allows the generation of Communication Theory from the Information Theory base. Thus, Communication Theory represents the Lebenswelt as an open system that is synchronic ("personal" consciousness; e.g. my lived reality) and polychronic ("personal" behavior; e.g. my intentional acts). Thus, we move to an explanation of the ways in which cultures determine the context of choice for persons who always make choices in context.[14]

The other connection that needs explanation is the social mediation between culture and person, and vice versa. This process is illustrated in Fig. 1. by the broken line [-----]. In this case the relationship is between a person as a member of a society (Gesellschaft) whose conscious behavior is a functional norm and as a member of a community (Gemeinschaft) whose conscious behavior is a natural norm. Again in a technical sense, Information Theory represents the Gesellschaft as a closed system that is diachronic ("social" consciousness; e.g. Western values) and monochronic ("social" behavior; e.g. American norms). In turn, Communication Theory represents the Gemeinschaft which is synchronic ("group" consciousness; e.g. family attitudes) and polychronic ("group" behavior; e.g. classroom activities). It does not take much analysis to see that the relationships I have described are functions in time, but the relationships per se cannot be compared as to their essential nature. Hence as I previously suggested, the nature is achronic [indeterminate] while the function is determined by chronological condition. It is this fact that allows a system to alternate its function between a state of "openness" and "closedness."[15]

I am now in a position to suggest my third point that human communication is best accounted for by Communication Theory as I have defined it. Four key relations are involved with this hypothesis. First, metaphor and morphogenesis must be viewed as a condition of discontinuity for the signifier and the relationship of metonymy and homeorhesis as a condition of continuity for the signified. In turn, the continuity of the signifier is explained by the analogue/homeogenesis relationship while the discontinuity of the signified is illustrated by the digit/homeostasis condition. These basic relations are diagramed in Fig.2.

In this diagram, I have combined concepts based on their logical "nature" and their system "function." The first combination is metaphor and morphogenesis. Metaphor is a relational process of one-for-one substitution of attributes and is usually, but not exclusively, an analogue based on a difference of degree. Morphogenesis is a process of constant change resulting from a sensitivity to "noise" and is consequently a condition of ultrastability. A working paradigm of morphogenesis is "society," i.e. a collection of sociocentric nature and function.[16]

The second combination is metonymy and homeorhesis. Metonymy is a relational process of the substitution of an attribute for a substance, usually (but not exclusively) a digit based on a difference of kind. Homeorhesis is a process of selection and combination within the given norms of a system; it is a form of morphostasis. In brief, morphostasis is a process of massive redundancy which reduces "noise" to insignificance and prevents change. It is a condition of instability in a system and a working paradigm is a "person," i.e. an egocentric nature/function.[17]

The third grouping is the analogue and homeogenesis. An analogue is a

SIGNIFIER	
DISCONTINUITY	CONTINUITY
METAPHOR MORPHOGENESIS	ANALOG[ICAL] HOMEOGENESIS
METONYMY HOMEORHESIS	DIGIT[AL] HOMEOSTASIS
CONTINUITY	DISCONTINUITY
SIGNIFIED	

Figure 2. Communication Theory

Note: Communication Theory Entails Information Theory.

relational process that suggests both the static condition of elements and their reversible combination; it is a choice in context. Homeogenesis is a homologous process that is also homeomorphous, i.e. homeogenesis is a form of morphostasis.

The fourth combination is the digital and homeostasis. A digit is a relational process that suggests either the static condition of elements or their reversible substitution; it is the context [known choices] for a choice. Homeostasis is a steady-state process in which a system and its environment are in balance, but in a condition of change. It is also a form of morphostasis.

The schemata articulated in Fig. 2. suggests the Communication Theory rules by which a person communicates as a member of a society. In Fig. 2. the movement from signifier discontinuity to signified continuity is the movement from parole to langue. In a linguistic sense this ishaving many words (e.g., words in several languages) for the same referent. The parallel movement from signifier continuity to signified discontinuity (again parole to langue) suggests in our example that one word can have many referents. The same illustration holds true if we shift our perspective to the signified and move through continuity or discontinuity to the signifier.

Such movement is precisely why Saussure insists that the signifier and signified are forms in a system. Such a process reversal as I just described is not possible if the relationships are defined as sound-image and concept within one natural language.[18] It is in this context that Information Theory is found wanting, since this theory presumes one finite system in which there is only one form for all functions, i.e. a rule of disjunction for elements (sound-image cannot be a concept, etc.).

My fourth basic point in this essay is that given the preceding analysis,

there are only two functional models permitted by the theory that can operate in a social world of persons. Both models represent a metatheory of human communication since they prescribe both the nature and function of the system as direction--either "open" or "closed." These directions are respectively the rectilinear and the curvilinear. In detailing them it may be helpful to examine Fig. 3. which is a progressive elaboration of Figs. 1. and 2.

The rectilinear direction in a system is characterized by equifinality and morphogenesis. In this sense "rectilinear" refers to a directional motion in time and space [consciousness and behavior] that is a linear process (closed system) or a multilinear process (open system). We can conceive of this structure as functionally arithmetic where its nature is an equivalence between system output and antecedent input. The foundation for the rectilinear construction rules is Information Theory. Thus, equifinality is a final state which may be reached from different initial states and/or by different paths. Put another way, choosing a context of choice counts as a choice--a point proven by its contradiction, namely that not choosing is a choice function by nature. Recall that morphogenesis is a condition of ultrastability exemplified above as "society" or a sociocentric system condition.

On the other hand, the curvilinear direction is a cycle motion in time and space that is a helical process (open system) or circular process (closed system). We can think of this structure as functionally geometric where its nature is a condition of output that is greater than its antecedent input. The base for the curvilinear direction and construction rules is Communication Theory. Therefore, the curvilinear process is characterized by multifinality and morphostasis. Multifinality is a process state by which similar initial condition, and/or routing by different paths, may lead to dissimilar end states.

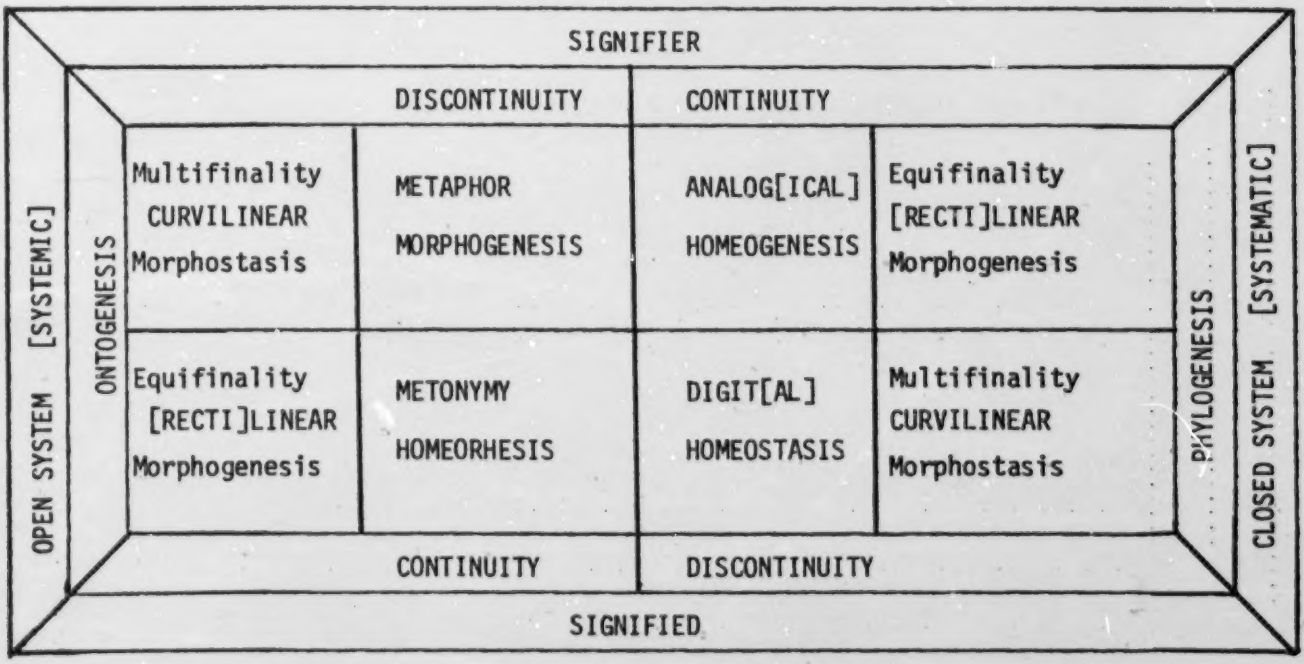

Figure 3. Communication Metatheory

Note: 1. Phenomenological Model = All Oppositions are Reversible and have a Dialectic Function.

2. Ecosystem Model = All Oppositions are Vectors and have an Analytic Function.

3. Oppositions = Vertical or Horizontal Movements of Relation [Form] in the Schemata (Fig. 3.).

For example, the same choice in one context will be unlike the same choice in another context--a point also proven by its contradiction, i.e. the same choice cannot be repeated in the same context since each unique choice alters the context. Most paradoxes depend on forgetting this principle. Also recall that morphostasis is a condition of instability illustrated previously by the concept of "person" or an egocentric condition.

At this point I would like to move to my fifth topic. Specifically, I want to characterize the model with rectilinear direction as the Ecosystem Model. In turn, I describe the curvilinear direction as the Phenomenological Model. It is not possible, given the confines of this essay, to proceed through a detailed proof for my construction of these models. So, I must limit myself to an outline description of the key elements in each model which will then allow me the privilege of making some assertions about future theory construction as it pertains to human communication.

First, let me suggest that I am using the concept of "ecosystem" in the way Wilden develops it.[19] With this understanding, I want to contend that the rectilinear direction has four rather exclusive functions in human communication. One, it can describe the digital nature of intra-personal communication. Such communication can be illustrated by a person's own perception of distinct expressions such as the difference between "my" writng and "my" speaking. Two, the model can describe digital inter-personal communication. Here a good illustration is the distinction between the perceived interaction that is "speech" such as a conversation and the interaction that is "language" such as one encounters in a personal letter. Third, the model can explain analogical intra-personal communication. For example, the difference between writing and speech. Contrast, as an illustration, how my personal letter writing presumes a context much like that

in which my speech occurs. Indeed, how often do we receive letters devoid of context? Yet, it rarely happens in a face-to-face conversation. Fourth, the model can describe analogical inter-personal communication. In this case we have the example difference between speaking and language. This category is illustrated by situations in which your language is corrected by others when you are speaking, or, you do not have the words that will make your speaking express your actual meaning, etc. In this sketch I have taken some care to make the parts of speech correspond with system functions, i.e. nouns suggesting a static condition with rectilinaer direction, present participles as action conditions that are nominal in a curvilinear sense, and so on. In addition, I have mixed semiotic forms, writing versus speaking, and I have mixed code-systems, language versus speaking. All of this to suggest the metatheory conditions that presume theory conditions. Thus, the main point of the Ecosystem Model is its utilization of an Information Theory approach where a natural language is the governing paradigm for theory construction.

The Phenomenological Model by comparison is grounded in Communication Theory which displays the curvilinaer direction in systems. In this particular discussion I am using "phenomenological" in its philosophic sense.[20] In similar fashion with the Ecosystem Model, I want to characterize four basic functions for human communication. In what follows, the basic point of the Phenomenology Model is the use of a Communication Theory approach where conscious behavior is the governing paradigm.

One, the Phenomenology Model can describe digital intra-personal communication. Such communication is exemplified by a person's tendency to be "conscious of behavior" where the norms of society (sociocentric) are compared to

those of nature/history (egocentric). Or, the tendency to behave "consciously" where historical norms are compared to cultural preferences. Two, the model can describe digital inter-personal communication. This type of communication illustrates self conscious behavior (what is existential to the organism) as compared with the consciousness of an other's behavior (what is empirical and mechanical--often as display technique for be-having).

Three, the model explains analogical intra-personal communication where being "conscious of behavior" (norms in society/nature) becomes an existential function of the organism (e.g., ego and alter-ego, or, self-concept and body-image, etc.). Four, the model describes analogical inter-personal communication. Here the use of historical/cultural norms to "behave consciously" allow for technique as intention to become "real" (empirical/mechanical). For example, the psychiatric technique of "free association" allows a person to behave consciously, yet utter basic feelings, attitudes, etc. which are repressed. A linguistic example would something like a performative utterance such as saying "I do" in a marriage ceremony. The utterance is the historical norm made empirical by intention to do so.

By way of connecting the Ecosystem Model and the Phenomenology Model with the initial analysis in this paper, let me point out that in Fig. 3. the operation of the models would have these following characteristics. First, all oppositions in the diagram are conceived in the Phenomenological Model as being reversible. Hence, communication is dialectical in a logical sense. Second, the Ecosystem Model conceives of all oppositions as analytical and not reversible.[21] Communication is rhetorical in this context.

My last point in this essay is a general prolegomena for human communication theory and praxis. Given the meta-theory conditions I have outlined

in this paper (see Fig. 3.), I believe theory construction must take account of Semiology which as a discipline focuses on the nature of digital codes functioning in an analogical context. The primary benefit in this orientation is the ability to describe inter-personal conditions which define the person in an empirical sense. By contrast, the discipline of Phenomenology focuses on the analogue nature of codes used in digital contexts. The gain here is the ability to describe personal condition of existence that define inter-personal situations which are likewise empirical.

In specific terms of communication praxis, the Phenomenology Model provides us with a methodology of (1) description, (2) definition (i.e., reduction of description), and (3) interpretation (i.e., reduction of definition).[22] Whereas the Ecosystem Model provides us with a technology consisting of (1) information (i.e., <u>data</u> generation as cognition), (2) communication (i.e., <u>capta</u> generation as affection), and (3) legitimation (i.e., <u>acta</u> generation as conation).[23] Both models presume a semiotic base in which (1) description and information are <u>code</u> conditions [langage], (2) definition and communication are <u>context</u> conditions [langue], and (3) interpretation and legitimation are <u>message</u> conditions [parole].[24] It is in the framework of this prolegomena that I contend that human communication is by definition a project in metatheory construction.

FOOTNOTES

1. See Klaus Krippendorff, "Information Systems Theory and Research: An Overview" in Communication Yearbook I, ed. Brent D. Ruben (New Brunswick: Transaction Books, 1977), pp. 149-171.
2. Jonathan Culler, "In Pursuit of Signs," Daedalus 106, no. 4 (Fall, 1977): 95-111. See also "Phenomenology of Verbal Associations" in Hans Hormann, Psycholinguistics (New York: Springer-Verlag, 1971), pp. 109-132.
3. Ferdinand de Saussure, Course in General Linguistics (New York: McGraw-Hill, 1966), p. 67.
4. Ibid., pp. 67-70.
5. Anthony Wilden, System and Structure: Essays in Communication and Exchange (New York: Harper and Row, 1972), p. 414. I am assuming the logical definitions of Hubert G. Alexander, The Language and Logic of Philosophy (Albuquerque: University of New Mexico Press, 1972).
6. Umberto Eco, A Theory of Semiotics (Bloomington: Indiana University Press, 1976), p. 48ff.
7. A. M. Piatigorsky, "On Some Theoretical Presuppositions of Semiotics," Semiotica 12, no. 3 (1974): 185-187.
8. Ibid., p. 187. Cf. JU. M. Lotman, "On the Metalanguage of a Typological Description of Culture," Semiotica 14, no. 2 (1975): 97-123.
9. Eliseo Veron, "Ideology and Social Sciences: A Communicational Approach," Semiotica 3, no. 1 (1971): 59-76.
10. Joachim Isreal, "Stipulation and Construction in the Social Sciences" in The Context of Social Psychology: A Critical Assessment (New York: Academic Press, 1972), p. 145.

11. Alexander, op. cit.
12. Dale G. Leathers, Nonverbal Communication Systems (Boston: Allyn and Bacon, Inc., 1976).
13. Cf. Jurgen Habermas, "On Systematically Distorted Communication," Inquiry 13 (Fall, 1970): 205-218; "Towards a Theory of Communicative Competence," Inquiry 13 (Winter, 1970): 360-375.
14. B. Aubrey Fisher, Thomas W. Glover, and Donald G. Ellis, "The Nature of Complex Communication Systems," Communication Monographs 44, no. 3 (August, 1977): 232-240.
15. A parallel analysis is offered by Richard J. Blackwell, "A Structuralist Account of Scientific Theories," International Philosophical Quarterly 16, no. 4 (December, 1976): 263-274.
16. This is a "high context" society according to Edward T. Hall, Beyond Culture (New York: Anchor/Doubleday Press, 1976), p. 91, et passim.
17. This is a "low context" society according to Hall, op. cit.
18. An interesting illustration of this point is the American diplomatic response in World War II with the Japanese word mokusatsu, see Alexander, op. cit., pp. 11-12.
19. Wilden, op. cit., p. 39, et passim.
20. Richard L. Lanigan, Speech Act Phenomenology (The Hague: Martinus Nijhoff, 1977).
21. Cf. Richard L. Lanigan, "Enthymeme: The Rhetorical Species of Aristotle's Syllogism," Southern Speech Communication Journal 39 (Spring, 1974): 207-222.
22. Lanigan, Speech Act Phenomenology, p. 84ff.
23. Richard L. Lanigan, Speaking and Semiology (The Hague: Mouton, 1972). Cf.

Sandra B. Rosenthal, "Pragmatism, Scientific Method, and the Phenomenological Return to Lived Experience," Philosophy and Phenomenological Research 38, no. 1 (September, 1977): 56-66; Stephen Toulmin, "From Form to Function: Philosophy and History of Science in the 1950s and Now," Daedalus 106, no. 3 (Summer, 1977): 143-162; and, Jonathan Culler, Saussure (London: Fontana/Collins, 1976), p. 103ff.